

REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks. Claims 2, 3, 5 and 7-10 are in the application. Claims 2, 8 and 10 have been amended. No new matter has been added.

The Examiner rejected claims 2, 3, 5 and 7-10 under 35 U.S.C. §112, stating that the term "width" was indefinite, as the "width" recited in the claims is really a "length" of the connection. Applicants have amended claims 8 and 10 to recite "length" instead.

The Examiner rejected claims 2, 8 and 9 under 35 U.S.C. §102 (b) as being anticipated by *Bertels*. The Examiner rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over *Bertels* in view of *Persson*, claim 5 as being unpatentable over *Bertels* in view of *Kunz et al.*, and claims 7 and 10 as being unpatentable over *Bertels* in view of *Frings et al.* Applicants respectfully traverse.

Applicants have amended claims 8 and 10 to specify that the length of the soldering connection from the butt joint along the

iron or titanium sheet is at least three times the thickness of the sheet. This length corresponds to distance b indicated on FIG. 2 of the drawings. The Examiner states that the thickness of the sheet can be judged according to the taper at the butt joint as well. Even if one were measuring the thickness at the taper instead of on the expanse of the sheet, the length of the welding seam would still be at least three times the thickness of the steel sheet. Applicants have also amended claim 2 to clarify that the thickness of the sheet is measured outside the chamfer. Support for this amendment can be found in FIG. 2 of the drawings, which shows thickness d as a measure of the non-chamfered thickness.

These features are not taught or suggested by *Bertels*. According to Figs. 6 and 7 of *Bertels*, the distance between the steel sheet and the sheet of light metal amounts to approximately 2 mm (column 4, line 42). The width of the connection seam 35 is indicated as being about 8 mm (column 4, line 52), and the thickness of the steel plate as 2 mm (column 4, line 35). This means that on the basis of the symmetrical arrangement of the connection seam 35, the width of edge 33 of the steel sheet 31 that is covered, on both sides, by the connection seam 35, amounts to 3 mm $((8-2)\div 2)$. The coverage width of the edge of the steel sheet 31 therefore corresponds to 1.5 times the thickness

of the steel sheet 31, and this stands in contrast to claims 8 and 10, which require a coverage width b (see Fig. 2) of at least three times the thickness of the iron or titanium sheet 1. Accordingly, *Bertels* cannot anticipate claims 8 and 10.

Accordingly, since none of the secondary references disclose this width ratio, claims 2, 3, 5, 7 and 9 are also patentable over *Bertels*, alone or in combination with the other cited references.

Regarding claim 10, it has been explained above that *Bertels* cannot anticipate claim 10 with regard to the coverage width of the sheet-metal cut-out 1 made of the iron or titanium material by the solder on the basis of aluminum. For this reason, looking at *Bertels* and *Frings et al.* together also cannot lead to the invention. Of course, it is not new to subject welded sheets to subsequent cold deformation that extends to the weld seam. However, it is surprising that the connection seam between an aluminum material and an iron material, according to the invention, allows subsequent cold deformation of the work piece without having to accept cracks in the region of the connection seam or impairments with regard to the deformation, resulting from the connection seam. Accordingly, Applicants submit that claim 10 is patentable over *Bertels* and *Frings*.

Claim 8 has also been rejected under 35 U.S.C. §103 as being unpatentable over *Webb* in view of *Lorcher*. Claim 2 is rejected as being unpatentable over *Webb* in view of *Lorcher* and further in view of *Yajima*. Claim 3 is rejected as being unpatentable over *Webb* in view of *Lorcher* and further in view of *Lentz et al.* Claim 5 is rejected as being unpatentable over *Webb* in view of *Lorcher* and further in view of *Kunz*. Claim 10 is rejected as being unpatentable over *Webb* in view of *Lorcher* and *Lentz et al.* Claim 7 is rejected as being unpatentable over *Webb* in view of *Lorcher* and *Lentz et al.* and further in view of *Frings*. Applicants respectfully traverse.

The present invention relates to sheets of metal that are joined in the form of a butt joint, whereby the additional aluminum material, which forms the connection seam, is applied in a region that bridges the butt joint, specifically in such a manner that this additional material covers the edges of the sheet metal of iron or titanium material in a length corresponding to at least three times the thickness of this sheet metal.

In contrast to this, *Webb* shows an iron material coated with titanium, and an aluminum alloy vapor-deposited onto the titanium layer. An aluminum hold solder is provided between the alloy and

the aluminum material to be connected. The solder layer does not cover the edge of the iron material, so that *Webb* cannot make claim 8 obvious, because *Webb* specifically does not show that the solder layer bridges the edge of the iron material on both sides. With regard to this characteristic, the Examiner refers to *Lorcher et al.* and asserts that it would be obvious for a person skilled in the art to amend *Webb* so that the connection seam covers the edge of the iron or titanium material on both sides, to the prescribed minimum dimension, because it is known from *Lorcher et al.* to provide an overlap in accordance with four times the thickness of the steel sheet for an advantageous solder connection.

However, the Examiner overlooks the fact that *Lorcher et al.* describes overlapping the steel sheet with the metal plate with which the steel sheet is to be connected, which stands in contrast with the invention, in which the two sheets to be connected do not overlap one another, but rather form a butt joint. Coverage of the iron or titanium sheet, on both sides, takes place by the solder. *Lorcher et al.* therefore excludes connection seams for metal sheets forming a butt joint, so that a person skilled in the art cannot derive any suggestions for a possible improvement of the solder connection according to *Webb* from *Lorcher et al.*, without having knowledge of the invention,

particularly since *Webb* obviously does not provide a solder seam that covers the edge of the iron material on both sides. Therefore, even a combination of *Webb* and *Lorcher et al.* cannot lead to the invention according to claim 8. Since none of the other cited references disclose this feature, the dependent claims are patentable as well.

The same arguments apply to the rejection of claim 10, because coverage of the sheet-metal cut-out, on both sides, in a width that corresponds to at least three times the thickness of the sheet-metal cut-out, is required in claim 10, as well.

Accordingly, applicants submit that independent claims 8 and 10, as well as the dependent claims, are patentable over the cited references, taken either singly or in combination. Early allowance of the amended claims is respectfully requested.

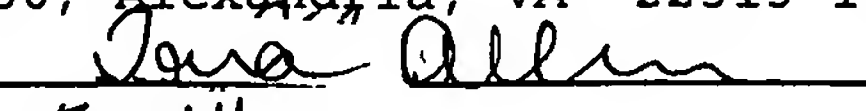
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